

A/B Testing


SEG3101-10-Existing-Data

A/B Testing

A/B Testing is the act of running a simultaneous experiment between two or more variants of a system to see which one performs the best

Useful when (all needed):

- Frequent deployment is easy
- Web-based system
- Auto-updated mobile app...
- Lots, lots of users
- Developing alternative features is easier than eliciting requirements through conventional means!



12-Process modeling

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Use Case Maps Summary

Model process concepts – mainly for workflow, operational, and functional requirements

Like most process modeling notations, UCMs provide:

- Coverage of basic process modeling concepts
- Visual description of behavior superimposed over entities (from software and hardware components to actors)
- Combined system view – integrate many scenarios/processes
- Effective documentation tool for people unfamiliar with the domain


More uniquely, UCMs also provide:

- Executability enabling requirements analysis
 - Enables reasoning about potential undesirable interactions of processes
 - Validation of specific scenarios with stakeholders
 - Path towards design and implementation
- Integration with goal models in URN

14-Goal modeling (GRL)

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Appendix: GRL Notation



Section 10 - Existing Data

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Implications for Requirements Engineering

- Consider eliciting as few requirements as you can before building the Minimally Viable Product (MVP)
- Instrument product, and collect and analyze data to constantly validate your selection and prioritization
- Model the expected value rather than express the requirement

Where is such A/B testing approach not easily applicable?

- Few users available
- Systems that cannot be frequently updated
- Systems where variant development is expensive
- Systems that involve much more than software
- ...

14-Goal modeling

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Uses of Rationales in Software Engineering

- Improve design support
 - Avoid duplicate evaluation of poor alternatives
 - Make consistent and explicit trade-offs
- Improve documentation support
 - Makes it easier for non developers (e.g., users, managers, lawyers) to review the design
- Improve maintenance support
 - Provide maintainers with design context
- Improve learning
 - New staff can learn the design by replaying the decisions that produced it

Requirements Verification VS Validation

- Validation: is the right product being built?
- Verification: is the product being built right?

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Use Case Maps Overview

- Use Case Maps
 - Graphical and textual scenario/process modeling notation
 - Causal relationships between responsibilities
 - Scenario elements may (optionally) be allocated to components
- UCM models support
 - Functional requirements as scenarios/processes
 - Integration and reusability of scenarios/processes
 - Guidance for architecture and detailed behaviour
 - Conflict detection
 - Transformations
 - Performance analysis

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GRL Notation (2)

- Intentional elements
 - Goal, softgoal (or quality), task
 - GRL resources and beliefs are not used in this course
- Achievement of a softgoal is qualifiable but not entirely measurable; it is quantifiable for goals (more binary too)
 - Softgoal ... often non-functional or quality
 - Goal ... often functional
- A task is a proposed solution that can achieve a goal and contribute to softgoals/qualities
- An indicator transforms a measure to a satisfaction level

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(Business) Process Modelling

- Process modelling is the activity of representing processes of stakeholders of an enterprise, so that the current processes may be analyzed, improved, or automated
- Process modelling enables to represent who does what, when, and possibly where
- Process modelling gives an opportunity to
 - Capture operational information from observations, documents, interviews, and questionnaires about existing ways of working (i.e. processes) of stakeholders
 - Integrate user stories and other operational scenarios together to analyze commonalities, alternatives, and potential conflicts
 - Anticipate the processes to be followed by the users of the future system

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Why Goals and GRL?

- Goals become an important driver for requirements elaboration – yet, stakeholders goals and objectives are complex and will conflict...
- GRL expresses and clarifies tentative, ill-defined, and ambiguous requirements
 - Supports argumentation, negotiation, conflict detection & resolution, and in general decisions
 - Captures decision rationale and criteria (documentation!)
- GRL identifies alternative requirements and alternative system boundaries (scope)
- GRL provides clear traceability from strategic objectives to technical requirements
- GRL allows reuse of stable higher-level goals when the system evolves

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Not published yet.

Last updated 16th November, 2023.

Page 1 of 1.

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